

Subjective financial satisfaction decreases financial stress in New Zealand university students;
free education and objective financial gain do not

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Abstract

Financial stress predicts negative academic, social, and psychological outcomes in a tertiary student's life. To investigate the factors leading to financial stress in New Zealand tertiary education students, 270 psychology students from the University of Canterbury completed scales measuring financial stress, perceived socio-economic status, and debt attitude as well as demographic status and financial status variables over a series of two experiments. The efficacy of the New Zealand government's free first-year tertiary education policy on reducing students' financial stress was also investigated: Half of the participants were primed with a paragraph regarding free first-year education. Students' financial stress increased with increasing debt, low subjective perception of one's socio-economic status, inability to save money, and thinking that one's weekly income was not sufficient for living needs, but objective financial status variables such as the amount of income, receiving Student Allowance, and part-time employment were not associated with students' financial stress. Surprisingly, priming with the government's free first-year education policy did not decrease first-year students' financial stress. Overall, findings suggest that 1) the government's focus could shift to students' present financial concerns and 2) the students' financial counselling and financial management skills should be enhanced.

Keywords: student allowance, financial stress, tertiary education, priming

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University students in the Western world are expected to be conscious of both academic duties and financial obligations. The psychological and emotional effects of stress due to inability to meet financial obligations is called financial stress (Northern, O'Brien, & Goetz, 2010).

Financial stress is one of the most debilitating factors in a university student's life due to its negative academic, social, and psychological effects. Consequently, psychologists have become interested to investigate factors leading to financial stress and strategies to overcome it. This research study is an attempt to figure out the factors leading to financial stress in New Zealand university students and to suggest policy adjustments based on the outcomes of the research.

Financial stress predicts negative academic outcomes. According to a news article in *The Australian*, Australian students reported that financial instability was one of the reasons they would drop out of university (Hare, 2017). Joo, Durband, and Grable (2008) found that financial stress led students to drop out of college or reduce their course work to get employment. Letkiewicz et al. (2014) found that students who had high amounts of debt, those who spent more than they earned (using credit cards) and students who had car loans reported more financial stress. Their financial stress predicted the odds of graduation taking more than four years, but those who met with financial counsellors were more likely to graduate on time (Letkiewicz et al., 2014).

A United States study found that the amount of student debt had three types of effects on degree completion. A student loan up to 10,000 USD increased the probability of students completing their degrees, the effect plateaued at 10,000 USD and debt beyond 10,000 USD decreased the probability of degree completion (Dwyer, McCloud, & Hodson, 2012). A New Zealand student borrowed 9,053 NZD (~ 27,000 NZD over a 3-year degree) on average in 2016 ("Student Loan Scheme Annual Report 2017," 2018). Interestingly, Dwyer et al. (2012) also

found that students from higher socio-economic strata were less affected by the effects of increasing student debt on completing their degrees. Morra, Regehr, and Ginsburg (2008) studied a sample of Canadian medical students and found that current and anticipated debt predicted financial stress. Moreover, anticipated debt accounted for extra variance in financial stress beyond current debt.

Inability to participate in the same activities as peers due to insufficient funds had the largest positive effect on reporting financial stress in students, followed by spending more than they earned, and inability to pay bills. Note that all these are *present* financial concerns. On the other hand, those with better financial efficacy (high rating of “I manage my money well”) and financial optimism (high rating of “being optimistic about the future despite financial problems”) reported less financial stress (Lim, Montalto, & Heckman, 2014).

Financial burden is associated with mental health problems. Generally, financial stress has been a predictor of low self-esteem (Dohrenwend & Dohrenwend, 1982), negative emotions (Skinner, Zautra, & Reich, 2004), depression (Krause, 1997), and anxiety (Drentea, 2000) in all population groups. Student confidence in financial status (self-report that they had enough financial support to complete their studies) was negatively related to mental health issues such as hopelessness, exhaustion, sadness, depression and being overwhelmed (Hyun, Quinn, Madon, & Lustig, 2006).

Except in a limited number of European and South American countries (Goetz, 2017), university students or their families finance their studies and pay for their day to day living needs (Saker & Hawkins, 2017). Some governments provide Student Loan services (Barr & Crawford, 2005) such that students’ tuition fees are paid by the state services and automatically deducted from their incomes later on.

New Zealand tertiary education students face two types, *future* and *present*, of financial obligations. The New Zealand government’s interest free Student Loan scheme pays students’

tuition fees; and repayments are automatically deducted once a student's future income is above a certain threshold. Since most university students do not have higher incomes ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018), repaying the Student Loan is a *future* financial concern and students with no or low incomes do not have to worry about it while they study ("Paying back your student loan," 2018; "Student Loan," 2018). However, living costs, such as accommodation, food, bills, commuting, and phone and internet, as well as one-off costs such as rental property bonds, computer and text books ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018; "Typical living costs," 2018) are considered *present* financial obligations.

Only a third of New Zealand tertiary education students are eligible to receive Student Allowances and Accommodation Benefits (non-repayable amounts paid weekly to full-time or semi-full time students to help with living costs and rental accommodation) ("Accommodation Benefit," 2018; "Student Allowance," 2018). The rest of them may borrow weekly Living Costs, work on part-time or full-time basis in-term and during summer holidays, or be assisted by their families ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018) to pay for their *present* needs. The Living Cost is a payable loan that adds up towards the Student Loan balance ("Student Loan living costs," 2018).

Day to day living costs reportedly do not keep pace with expenses and students struggle to make ends meet, leading to financial stress (Enoka, 2015). The New Zealand Union of Students' Associations (NZUSA) has conducted longitudinal studies which found that the average student was close to severe financial distress; a third of students reported a severe financial burden; and the weekly income of an average student was not sufficient for *present* needs. Moreover, the final-year students had an extra concern. They tended to report increased distress as they estimated that their Student Loans would be more than 30,000 NZD on average by graduation. The final-year students self-reported that increasing Student Loans were affecting

their future decisions such as their ability to buy a home, go overseas, study further, and have children ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018).

The new Labour government of New Zealand decided to address the Student Loan issue as one of their key policy changes. One of the major financial policy shifts of the new government has been to institute free first-year tertiary education. The policy was announced in November 2017 and students starting tertiary education in 2018 did not pay any tuition fees ("Fees-free tertiary study on fast track," 2018). The policy was meant to "invest in education" and get the student "closer to a more affordable future" ("Fees-free tertiary study on fast track," 2018).

This policy shift might have noticeable effects because Student Loan is the most common source of paying university tuition fees in New Zealand. Based on figures from the Ministry of Education, 176,938 individuals (which comprises 70% of eligible students) borrowed from Student Loan in 2016 and the average amount borrowed was 9053 NZD. Based on NZUSA figures, 79% of students reported that they paid their tuition fee via Student Loan ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018). The recently introduced policy was good news for the *future* economic concerns of 2018 first-year tertiary education students. However, the government did not take into consideration *present* financial concerns which stress students at all levels, especially since the cost of living as a student has increased since 2012 ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018). Therefore, it was interesting to investigate if fees-free first-year education had any effects on the *present* financial obligations of students.

The current studies investigated university students' financial stress using the Students' Financial Stress Scale – Aotearoa (SFSS-A). The scale was developed by the Research Methods (PSYC344) course students of University of Canterbury in 2017 (PSYC344 Students, 2017).

Participants also completed the MacArthur Subjective Social Status (SSS) Scale (Adler & Stewart, 2007); those with higher ratings of the scale were expected to have less stress.

Study 1

The free first-year education policy applies to first-year university students exclusively. Therefore, it was expected to affect students of different study levels differently. In Study 1, Stage-1 (100 level) students who did not pay tuition fees in 2018 were compared with Stage-2 (200 level) and Stage-3 (300 level) students who did pay tuition fees in 2018. Participants' financial stress was measured using the SFSS-A (PSYC344 Students, 2017) and the SSS (Adler & Stewart, 2007) was used to measure socio-economic status. Students were also asked demographic questions and whether or not they had any type of debt (referred as *debt group* and *no-debt group* from here on), whether or not they received Student Allowance, their employment status, and whether or not they had any Student Loans. It was anticipated that all students in the debt group, regardless of the study year, would score higher than the no-debt group on SFSS-A (Hypothesis-1). Besides, it was hypothesised that the participants who ranked themselves with higher SSS, regardless of study year, would score lower on SFSS-A than the ones who ranked themselves lower SSS (Hypothesis-2). To investigate if reminding them of the free first-year education policy affects students' stress, half of them were *primed* with the statement of Education Minister regarding the fees-free first year education policy and the other half were *un-primed*. It was anticipated that such priming would affect participants in a diverging fashion, such that the *primed* Stage-1 students would score lower on SFSS-A than the *un-primed* ones. On the other hand, *primed* Stage-2/Stage-3 students would not score lower on SFSS-A than the *un-primed* ones (Hypothesis-3).

Method

Participants

One hundred and twenty participants consisted of 60 Stage-1 and 60 Stage-2 or Stage-3 psychology undergraduate students of the University of Canterbury. There were 96 females, 23 males and 1 other gender. Stage-1 students were credited 1% towards their final PSYC105 (semester 1 introductory psychology course) grades. Stage-2 and Stage-3 students received 10 NZD Westfield gift cards each; and went into a draw to win a 50 NZD Westfield gift card. Age groups of participants ranged from under 18 to 45-54, of which 76.7% were in the 18-24 age group, 10% were in the 25-34 group, 9.2% were under 18, 2.5% were in the 45-54 group and 1.7% were in the 35-44 group. Most of the participants identified as New Zealand Europeans (75%), followed by 4.2% South Asians, 3.3% East Asians, 2.5% Māori, 2.5% Pacific Islanders and 12.4% other. Eighty-five participants (70.8%) reported some unspecified form of debt, 48 (40%) received Student Allowances from the government, 115 (95.8%) were full-time students, and 67 (55.8%) were employed part-time at the time of survey.

Measures and Materials

The questionnaire was distributed online using the survey software Qualtrics (2018). The questionnaire contained:

SFSS-A. This is a 22-item self-report scale (see Table 1) designed to measure university students' perceived stress due to financial burden (PSYC344 Students, 2017). The scale was generated by PSYC344 (Research Methods) course students of the Department of Psychology, University of Canterbury in 2017. It has acceptable levels of convergent and discriminant validities and its internal consistency reliability is $\alpha = 0.93$ (PSYC344 Students, 2017). The participants responded to each item on a 7-point Likert scale (Barnette, 2012) from 1 (strongly disagree) to 7 (strongly agree). The rating scale appeared opposite each question. A sample

statement of SFSS-A is, “worrying about money affects my daily mood”. Two items, I4 and I20 are reverse scored, indicated with (R_s) in Table 1.

Subjective Social Status (SSS) Scale. SSS (Adler & Stewart, 2007) is a self-report measure of social status that asks participants to compare themselves with the people of their community, using a numbered stepladder image. The scale reportedly demonstrated good test-retest reliability for overall socioeconomic position ($\kappa = 0.62$), socioeconomic position of the subjects related to their closer communities ($\kappa = 0.58$), and related to their work places ($\kappa = 0.67$) (Giatti, Camelo, Rodrigues, and Barreto, 2012). It is 10-point scale from 1 (the worst-off) to 10 (the best off).

The survey also asked questions regarding age group, gender, ethnicity, level of education, employment status, whether or not participants received Student Allowance from the government or any other form of financial support and if they had any form of debt (*debt group* and *no-debt group*).

Design

The study was a 2 (*primed, un-primed*) X 2 (*debt, no-debt*) between-subject ANCOVA design. The independent variables were condition (*primed* vs. *un-primed*) and whether they were in the *debt group* or *no-debt group*. SSS functioned as a covariate. Rating of the SFSS-A was the dependent variable of the study.

Procedure

The information sheet differed between Stage-1 and Stage-2/Stage-3 students only with respect to the incentive information. The questionnaire was completed online. Participants read the information sheet and consented to participate. Instructions stated that participants would read a small passage on a computer screen and answer some questions.

The *primed* condition read a statement by the Education Minister Chris Hipkins declaring free first year tertiary education for first-year students in 2018. The *un-primed* participants read a paragraph of the same length about the nature of New Zealand. Participants then completed the scales and answered demography questions on their own. Answers were anonymously pooled after data collection, so the participants were not debriefed immediately. Instead, they were asked whether or not they wanted to receive a copy of the results. The questionnaire took 10-15 minutes to complete.

Results

IBM Statistical Package for Social Sciences (SPSS) version 25 was used to analyse the data.

Initial observations of the data

Participants' scores of Subjective Social Status (SSS) Scale showed a normal distribution, categories ranging from 2-8, a mode of 4, $M = 4.90$, and $SD = 1.52$.

Items I4 and I20 of the SFSS-A were reverse scored before the analysis. The means and standard deviations were monitored for extreme floor and ceiling effects, thus items I1, I10, I11, and I15 (Table 1) were removed due to high average scores ($M > 5$) and I19 was removed due to a high standard deviation ($SD > 2$). The deleted items indicated that there was much to stress about. Only a few participants did not think about ways to reduce their spending (I1), did not feel ashamed of borrowing money (I10), did not worry about unplanned expenses (I11), and did not feel they needed jobs to cover their immediate needs (I15).

The remaining 17 items were considered for further analysis and composite variable of SFSS-A was calculated. The reliability analysis determined that the item-total correlations of all items were above 0.3. The internal consistency reliability of the scale was acceptable ($\alpha = .94$). In addition, exploratory factor analysis was performed using Principal Component Analysis. Based on Kaiser Criterion, the items could be reduced to two factors, with one latent factor loading

8.98 items and the other latent factor loading 1.45 items. However, a Scree Plot (Figure 1) suggests a one-factor solution. Therefore, SFSS-A was taken as a unidimensional measure of students' financial stress with $M = 4.20$ and $SD = 1.25$ and a potential range from 1 to 7.

Effects of debt, SSS and demographic variables

Bivariate correlations showed that financial stress (as measured by the 17-item SFSS-A) decreased with higher SSS ($r = -.42, p < .001$) and with receipt of Student Allowance ($r = -.23, p < .05$); and increased if there was any form of debt ($r = .35, p < .001$). However, further analysis with multiple regression showed that only debt and SSS were significant predictors of perceived financial stress, $R^2 = .29, F(3,116) = 15.57, p < .001$.

Excluding non-significant predictors, the participants' reported debt was a strong predictor of perceived financial stress, $\beta = .32, t(117) = 4.00, p < .001$. One-way analysis of variance (ANOVA) showed that the participants in the *debt group* ($M = 4.48, SD = 1.16$) had significantly higher financial stress, $F(1,118) = 16.68, p < .001$, Partial $\eta^2 = .12$, than the participants of *no-debt group* ($M = 3.52, SD = 1.20$), supporting Hypothesis-1.

The participants with higher SSS scores reported lower perceived financial stress, $\beta = -.40, t(117) = -5.00, p < .001$, as anticipated in Hypothesis-2. Furthermore, the scores of SSS, *primed* and *un-primed* conditions, and *debt group* and *no-debt group* were centred to assess the moderation effects of SSS on the mentioned measures. It turned out that SSS did not moderate perceived financial stress of *primed* vs. *un-primed* participants, $\beta = .07, t(116) = .88, p = .38$, though its moderation effect on the perceived financial stress of the *debt group* vs. *no-debt group* was suggestive of statistical significance, $\beta = .05, t(116) = .68, p = .50$.

To investigate the effects of priming, the sample was divided into two groups (Stage-1 and Stage-2/Stage-3) and their mean stress scores were analysed separately using analysis of covariance (ANCOVA) controlling for SSS. The average difference between perceived financial

stress of *primed* Stage-1 students and *un-primed* Stage-1 students approached statistical significance. *Primed* Stage-1 students reported lower financial stress than the *un-primed* ones, $F(1,55) = 3.86, p = .054$, in line with Hypothesis-3. However, the average perceived financial did not differ between the *primed* and *un-primed* conditions for Stage-2/Stage-3 students, $F(1,55) = 0.23, p = .64$.

Study 2

Study 1 had three aims: to demonstrate that student debt led to perceived financial stress, to show that perceived higher socio-economic status decreased perceived financial stress, and to demonstrate that priming with free first year education would affect Stage-1 and Stage-2/Stage-3 students' financial stress in a diverging fashion. The results supported Hypothesis-1 and Hypothesis-2, but the results for Hypothesis-3 were inconclusive as they just approached statistical significance for Stage-1 students. To clarify this issue further, Study 2 was conducted.

Furthermore, as Study 1 showed that the SSS affected financial stress, but Student Allowance and the employment status did not, some new questions were added to Study 2 to further investigate the varying effects of subjective and objective financial status variables on financial stress. These questions included asking the students to report the amount of their weekly income (objective) and what they usually spent it on, report whether or not they thought this amount was enough for their living needs (subjective), and whether or not they could save at the end of each week (subjective).

Study 2 recruited Stage-1 psychology students to complete the SFSS-A (PSYC344 Students, 2017), SSS (Adler & Stewart, 2007), and Attitudes to Debt Scale (ADS) (Haultain, Kemp, and Chernyshenko, 2010). The ADS consists of two uncorrelated factors, Fear of Debt (emotional aversion of debt) and Debt Utility (the usefulness of acquiring debt) (Haultain et al., 2010), and these correlate differently with financial status factors. For instance, when tested on final year school students the amount of debt was not correlated with Fear of Debt, but it was

correlated with Debt Utility ($r = .14, p < .01$) (Haultain et al., 2010). On the other hand, the amount of saving decreased Fear of Debt ($r = -.12, p < .01$), but not Debt Utility. (Haultain et al., 2010).

In addition, the participants were asked whether or not they received Student Allowance or any type of financial support. They were also asked if they would have enrolled if it was not for free education in 2018. The specific hypotheses of Study-1 follow below.

It was anticipated that the participants in the *debt group* would show higher financial stress than the *no-debt group* (Hypothesis-4) and that participants who ranked themselves with higher SSS would demonstrate lower financial stress than the ones who ranked themselves with lower SSS (Hypothesis-5). The priming manipulation matched that of Study 1. It was anticipated that the *primed* students would show less financial stress than the *un-primed* ones (Hypothesis-6).

As Study 1 showed that financial stress was affected by the subjective financial status variables, but it did not correlate with the objective measures, it was hypothesised that the students who thought their weekly income was enough would show lower financial stress than the ones who thought their weekly income was not enough (Hypothesis-7). Similarly, the students who reported that they could save at the end of the week would demonstrate lower financial stress (Hypothesis-8). However, the amount of income (objective) would not affect the financial stress (Hypothesis-9).

It was anticipated that the students who reported higher SSS scores, could save at the end of the week, or thought that their weekly income was sufficient, would report lower Fear of Debt (Hypothesis-10). Moreover, the students who showed higher Fear of Debt were anticipated to show greater financial stress (Hypothesis-11). Consistent with Haultain et al. (2010), it was anticipated that Debt Utility would not correlate with the subjective financial status measures (Hypothesis-12).

Method

Participants

The participants were 150 Stage-1 psychology undergraduate students of the University of Canterbury. There were 112 females, 35 males and three other genders aged from 16 to 49 years ($M = 20.94$, $SD = 5.76$). The participants were credited 1% towards their final PSYC106 (semester 2 introductory psychology course) grades. Most participants identified as New Zealand Europeans (76.7%), followed by 7.3% Māori, 4% South Asians, 2.7% East Asians, 2% Pacific Islanders, 2% Europeans, and 5.4% other. A hundred and thirty four participants (89.3%) were full-time students, 65 (43.3%) received Student Allowance, and 63 (42%) of them received financial support from other sources such as family support and Living Costs loans from the Ministry of Social Development. Eighty-three (55.3%) participants were employed part-time and 63 (42%) were not currently employed. The average weekly income ranged from none to 1000 NZD ($M = 251.85$, $SD = 199.60$), while three participants reported more than 1000 NZD weekly income. Weekly income was spent mostly on living costs (82.7% reporting such spending), general spending such as clothes and recreation (74.7%), to repay their Student Loans (15.3%), or commuting (9.3%). Forty-five (30%) participants had some form of debt, 58 (38.7%) participants could not save at the end of the week, and 76 (50.7%) participants thought their weekly incomes insufficient for their living needs. Only 30 (20%) students reported they would not have enrolled this year if it was not for free education. Twenty-three participants (15.3%) had Student Loans, 16 (10.7%) owed finance payments, 15 (10%) had credit card loans, and seven (4.7%) had mortgages. Study 1 participants were excluded from repeated participation in Study 2.

Measures and Materials

The study was distributed online using the survey software Qualtrics (2018). The questionnaire contained SFSS-A (PSYC344 Students, 2017) and SSS (Adler & Stewart, 2007)

matching Study 1. The additional questionnaire of Study 2 was Fear of Debt and Debt Utility (Haultain et al., 2010).

ADS. ADS (Haultain et al., 2010) is a 9-item two-factor (Fear of Debt and Debt Utility) self-report measure of attitudes towards debt. Haultain et al. (2010) found that the two factors were not correlated. Fear of Debt has four items and its internal consistency reliability was $\alpha = 0.65$ (Haultain et al., 2010) when tested with first year university students. Debt Utility has five items and its internal consistency reliability was $\alpha = 0.64$ (Haultain et al., 2010) when tested with first year university students. The participants responded to each item on a 7-point Likert scale (Barnette, 2012) from 1 (strongly disagree) to 7 (strongly agree). The rating scale appeared opposite each question. A sample statement of Fear of Debt is, “One of the worst aspects of tertiary education is being in debt”. A sample statement of Debt Utility is, “I would rather be in debt than change my lifestyle”.

The survey also asked questions regarding age, gender, ethnicity, employment status, the amount of weekly income, and being a part-time or a full-time student. In addition, the participants were asked whether or not they received Student Allowance or any other form of financial support, what they spent their weekly income on (living costs, general spending, credit card repayments and etc.), and if they had any form of debt (*debt group* and *no-debt group*). Finally, they were asked whether or not they could save at the end of a week, whether or not they thought their incomes were sufficient, and whether or not they would enrol this year had it not been for free education.

Design and Procedure

The study was a 2 (*primed, un-primed*) X 2 (*debt, no-debt*) between-subject ANCOVA design. The independent variables were condition (*primed* vs. *un-primed*) and whether they were in the *debt group* or *no-debt group*. SSS functioned as a covariate and the rating of SFSS-A was the dependent

variable of the study. Priming, the information sheet, and other instructions were similar to Study 1.

Results

Overall, the analysis concentrated on replicating Study 1 results and examining the effects of the newly added variables.

Initial observations of the data

Factor and reliability analyses of the SSS and SFSS-A produced very similar results to those obtained for Study 1 and hence are not reported here.

Composite variables were calculated for SFSS-A and for both latent factors of ADS. It was found that the two latent variables of ADS were not significantly correlated ($r = -.11, p = .19$). The reliability analysis yielded acceptable internal consistency reliabilities for both Fear of Debt ($\alpha = .77$) and Debt Utility ($\alpha = .79$). Confirmatory factor analysis affirmed a two-factor model consistent with Haultain et al. (2010).

Effects of SSS, demography and financial variables

Bivariate correlations showed that financial stress decreased with higher SSS ($r = -.36, p < .001$). On the other hand, financial stress increased with age ($r = .21, p < .05$), if the participant was female ($r = .30, p < .001$), if they did not receive financial support from the family ($r = .23, p < .05$), and if they had any form of debt ($r = .27, p < .01$). The participants also demonstrated increasing financial stress if they thought they could not save at the end of each week ($r = .53, p < .001$), if they thought their weekly income was not sufficient for their living needs ($r = .55, p < .001$), and if they had credit card loans ($r = .19, p < .05$) or finances ($r = .21, p < .05$). Financial stress was not significantly correlated with Student Allowance receipt ($r = -.14, p = .09$), employment condition ($r = -.08, p = .36$), if they received financial support from the government such as weekly benefits ($r = -.15, p = .08$), or with weekly income ($r = -.06, p < .47$). As

noticeable here, none of objective financial status measure were associated with financial stress, confirming Hypothesis-9.

Analysis with multiple regression showed that SSS, debt, inability to save at the end of the week, and thinking that the weekly income was not sufficient were significant predictors of perceived financial stress, $R^2 = .45$, $F(5,144) = 23.51$, $p < .001$, while age was not, $\beta = 0.03$, $t(144) = 0.46$, $p = .65$. Excluding age improved the model, $R^2 = .45$, $F(4,145) = 29.50$, $p < .001$. Further results from the final multiple regression solution are displayed in Table 2. Gender of participants was excluded from analysis and so was receiving family help, as it was a yes/no question.

As the table shows, the findings of debt, SSS, thinking that the weekly income was sufficient, and ability to save at the end of the week were consistent with the anticipations, confirming hypotheses 4, 5, 7, and 8 respectively. In conclusion, the subjective financial status measure do predict financial stress.

Priming

ANCOVA analysis showed that there were no significant differences in financial stress of *primed* vs. *un-primed* conditions. Thus, Study 2 could not confirm the suggestive results of Study 1 with respect to priming the Stage-1 students; therefore, Hypothesis-6 is not supported.

Attitudes towards debt

Fear of Debt decreased with increasing SSS ($r = -.22$, $p < .01$), if they could save at the end of the week ($r = -.18$, $p < .05$), and if they thought their weekly income was sufficient for their living needs ($r = -.25$, $p < .01$) – consistent with Hypothesis-10. Moreover, consistent with Hypothesis-11, Fear of debt increased financial stress ($r = .43$, $p < .001$).

Debt Utility did not correlate with subjective financial status measures; neither did it correlate with SSS supporting Hypothesis-12. In addition, age was a significant predictor of Debt Utility, $\beta = -.21$, $t(148) = -2.67$, $p < .01$.

Discussion

This project was designed to investigate the factors leading to tertiary students' financial stress after the government announced free first-year tertiary education policy for the new students of 2018.

Both studies demonstrated that debt increased financial stress and subjective perception of higher social status decreased it. Study 2 also showed that other subjective financial status measures, such as ability to save and thinking that weekly income was sufficient decreased financial stress. These findings were further supported as a result of the significant correlation of subjective financial and social status measures with the emotional dimension of the ADS, Fear of Debt (Haultain et al., 2010), as well as no correlation of subjective financial status measures with Debt Utility. However, both studies showed that the objective financial status measures such as Student Allowance receipt, employment, other financial support from the government, and income were not associated with financial stress. Furthermore, priming with free first-year tertiary education did not decrease financial stress.

Consistent with the findings of the current project, former foreign studies e.g. Dwyer et al. (2012), Letkiewicz et al. (2014), and the NZUSA report ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018) demonstrated that student debt was a source of financial stress in university students. The present findings also agree with Dwyer et al. (2012) and Hyun et al. (2006) in indicating that perceived higher socio-economic status is a protective factor against students' financial stress. It is evident that the driving force behind students' financial stress is how they perceive themselves financially. The ones who perceive themselves better off socio-economically, think their income is sufficient, and can save at the end

of the week (regardless of the amount) experience less financial stress. On the other hand, objective measures do not necessarily define financial stress. The amount of income and receiving Student Allowance or any other type of support did not decrease financial stress, unless the student was subjectively satisfied and thought their income was enough.

It is possible that the non-significant effects of priming with free first-year education can be explained by the difference between *present* and *future* concerns. Lim et al. (2014) and the NZUSA report ("Income & expenditure report 2017 - The cost of being a student in New Zealand," 2018) showed that the sources of financial stress in students were their day to day or *present* financial obligations, not the *future* concerns of repaying Student Loan. It may be that the *primed* students were not impressed that their *future* financial concerns were taken care of, because their financial stress was related to their *present* financial obligations.

Furthermore, the above explanation can be regarded as a limitation of the current study too. One might argue that the financial stress results based on the SFSS-A (PSYC344 Students, 2017) relate to *present* financial concerns not because students do not have *future* financial concerns, but because the observed variables of the scale represent the *present* financial issues only. Such reasoning indicates it might be worthwhile to develop a separate scale to measure *future* concerns.

An explanation for the lack of priming effects may stem from the dubious efficacy of monetary priming generally. Caruso, Vohs, Baxter, and Waytz (2013) conducted five experiments indicating that priming with money prompted the participants to endorse free-market systems and tolerate social inequality. However, when Rohrer, Pashler, and Harris (2015) replicated the mentioned study, they found no evidence of such a priming effect.

As the current project found, the subjective financial status measures define financial stress, while objective measures, including free first-year education, do not. It may be that the government's free first-year tertiary education policy is addressing a *future* economic concern of

first-year students but not their *present* financial obligations. These findings imply that the focus could be shifted to the *present* financial concerns of the students where there is a need to develop effective strategies to help students overcome their financial stress. There are at least two practical applications.

First, the subjective financial status measures might be manipulated to reduce financial stress. Being able to save, thinking that the weekly income is sufficient or evaluating oneself higher on social status scale relative to other people are subjective measures and may differ from one person to another. One may consider twenty dollars enough saving while another will not be satisfied with a hundred. One might think two hundred dollars weekly income is enough and another would be looking for a thousand. Two socially similar people may rate themselves differently on the social status scale. Former empirical evidence suggests that these perceptions can be changed. For instance, Letkiewicz et al. (2014) showed that American students who received financial counselling had higher odds of graduating in four years than those who had financial stress. Financial counselling services and financial management plans might be effective for New Zealand tertiary education students. In the meantime, empirical evidence is needed to evaluate the efficacy of such services in New Zealand context. A future study might investigate if such interventions work.

The outcomes of initial scale analysis further support the claim that there is a need to enhance financial counselling and financial management skills in students. The analysis showed that there were a few students who did not think about reducing their spending, were not ashamed of borrowing money, did not worry about unplanned expenses, did not feel they needed jobs to cover their immediate needs, and did not constantly worry about their financial situation.

The second application stems from the argument that the free first-year education policy is not serving its purpose. Two key parts of the policy were to improve the affordability of

tertiary education and to encourage more students to study after school ("Fees-free tertiary study on fast track," 2018). As the current research study and findings by Lim et al. (2014) show, it is *present* financial concerns that lead to financial stress and eventually, negative educational, social and psychological outcomes (Drentea, 2000; Joo et al., 2008; Krause, 1997; Lim et al., 2014). Furthermore, the policy does not seem to be encouraging many students into tertiary education. Four out of 5 participants of Study 2 reported that they would have enrolled in university regardless of the policy. Nor is there any guarantee that the extra 20% students of 2018 may continue to study next year – when they have to pay their tuition fees.

The newly developed SFSS-A (PSYC344 Students, 2017) seems to be a reliable measure of students' financial stress. The scale had high internal consistency reliability in both studies.

The findings here may not generalise to vocational institutes and polytechnics. Nor is it clear how financial stress of the present first-year students will change in their second year. Future studies could examine these issues.

To conclude, subjective financial status variables such as higher perception of socio-economic status, ability to save, and thinking that the weekly income is sufficient influence financial stress in New Zealand university students. On the other hand, weekly income, Student Allowance, and employment status do not. Reminding first-year students of their free first-year education does not decrease their present financial stress. Perhaps the focus should shift to the present financial burden of students – which might be reduced by financial counselling and enhancing financial management skills.

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Table 1

Means and standard deviations of SFSS-A items.

Items	<i>M</i>	<i>SD</i>
I1. I think about how to reduce my spending every day	5.38*	1.10
I2. I constantly worry about my financial situation	4.93	1.75
I3. I try not to think about how much debt I am in	4.52	1.70
I4. My income is sufficient to meet my needs (<i>R</i>)	3.79	1.83
I5. I think my financial position has a negative effect on my social life	4.27	1.70
I6. I think my financial position has a negative effect on my study	3.88	1.75
I7. Not meeting my weekly financial demands is constantly on my mind	3.78	1.91
I8. Worrying about money affects my daily mood	4.15	1.81
I9. I feel like I don't have enough money to do the things I enjoy	4.96	1.68
I10. I feel ashamed if I have to borrow money	5.38*	1.67
I11. I worry about unplanned expenses	5.22*	1.64
I12. I find myself stressing about upcoming payments	4.73	1.73
I13. I feel stressed when I receive my bills	4.68	1.66
I14. I am often concerned I will not have enough funds to make necessary purchases	4.48	1.73
I15. I feel I need to get a job to cover my immediate needs	5.04*	1.81
I16. I spend all my money on living costs	4.06	1.81
I17. I regularly miss out on social occasions due to finances	3.76	1.82
I18. I compromise my well-being due to my financial situation	3.68	1.84
I19. I have avoided checking my bank balance out of fear	3.50	2.12*
I20. I am able to easily balance my finances with my social life (<i>R</i>)	3.88	1.51
I21. Financial stress restricts my social life	3.83	1.73
I22. I avoid interactions that involve money	4.07	1.54

Note. *M* = mean. *SD* = standard deviation. * indicates the removed item. The rating scale was from 1 (strongly disagree) to 7 (strongly agree). *R* = reverse scored.

Table 2

Multiple regression results of financial stress predicted from different criterion variables

Predictors	β	<i>SE</i>	<i>t</i> (145)	<i>p</i>
SSS	-0.18	0.05	-2.72	.007
Having debt	0.14	0.18	2.21	.029
Inability to save at the end of the week	0.33	0.19	4.60	<.001
Weekly income is not sufficient	0.32	0.19	4.50	<.001

Note. SSS = Subjective social status. β = standardized regression coefficient. *SE* = standard error. *t*(145) = *t* value with 145 degrees of freedom.

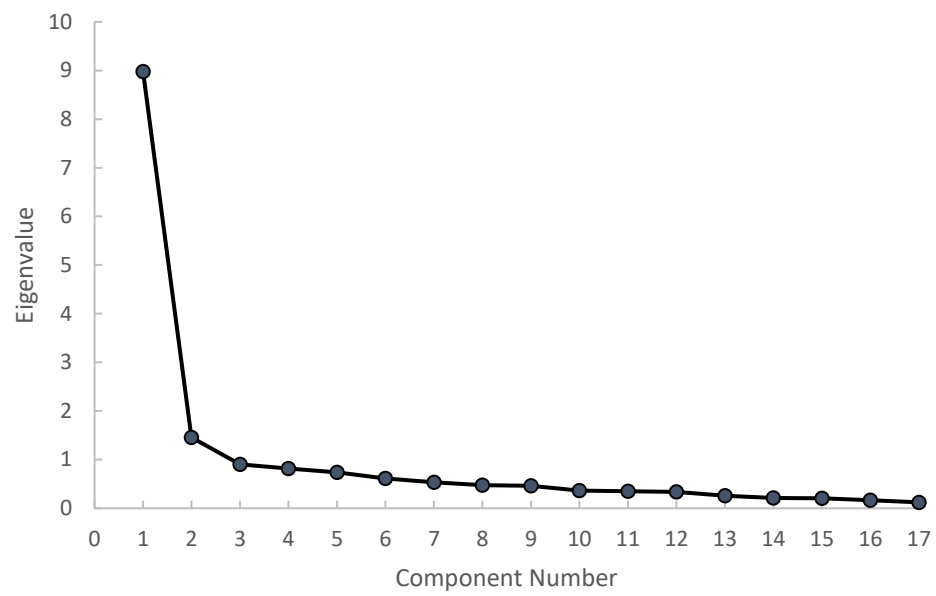


Figure 1. Scree plot of SFSS-A graphing eigenvalues against the factor number.